OIPE
SEP 1 6 2004
PATENT & TRADEMARK OFFICE
JC08

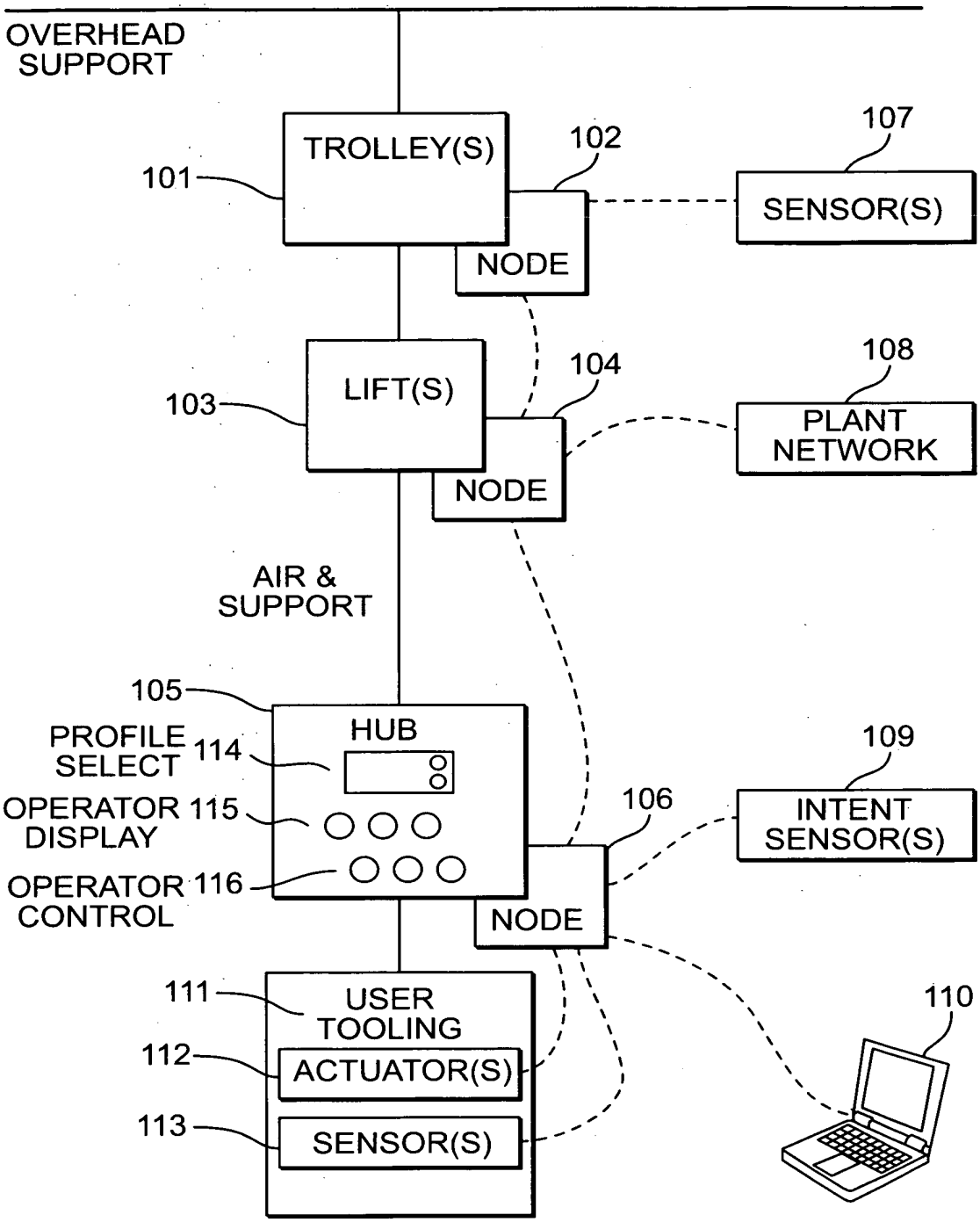

FIG. 1

OIPE
SEP 1 6 2004
JC98

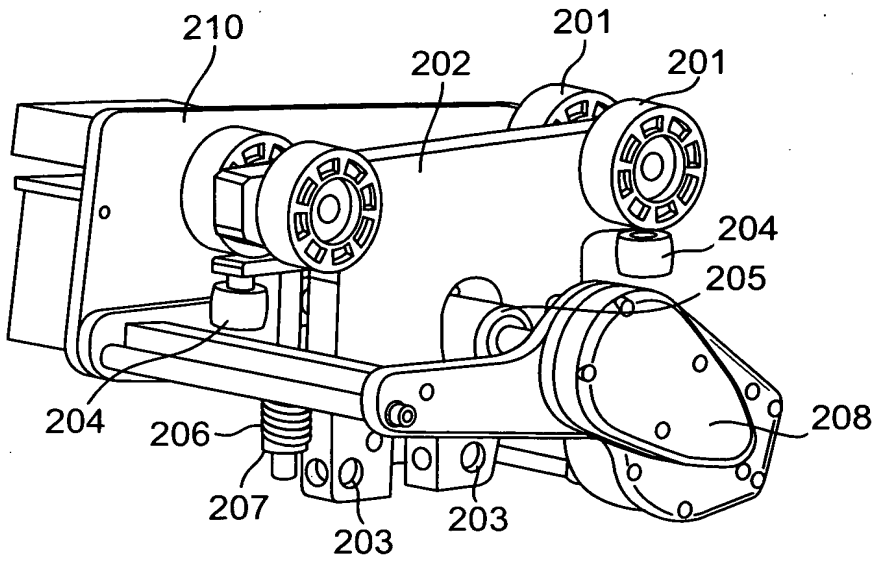

FIG. 2

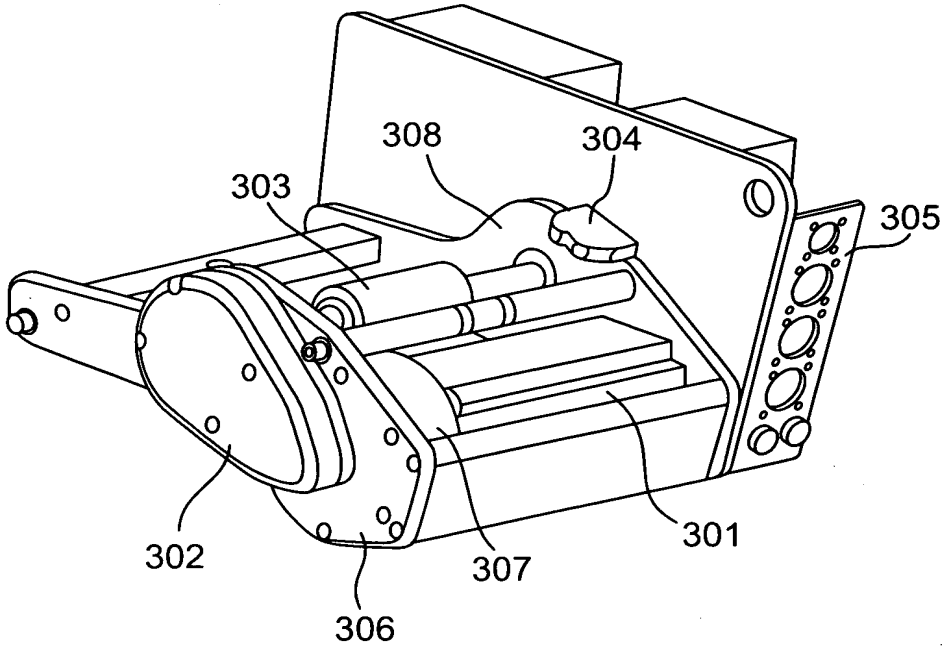

FIG. 3

OIPE
SEP 1 6 2004
TRADEMARK OFFICE

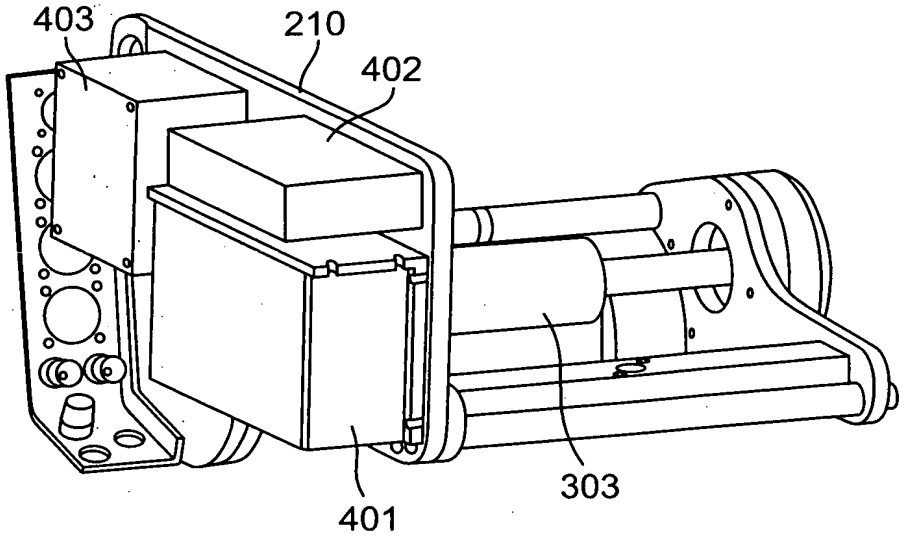

FIG. 4

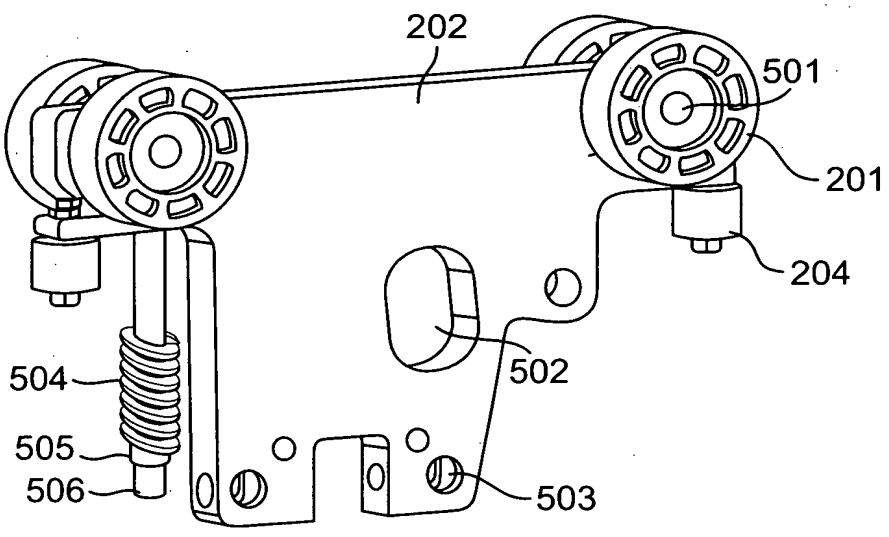

FIG. 5

OIPE
SEP 1 6 2004
PATENT & TRADEMARK OFFICE
JC38

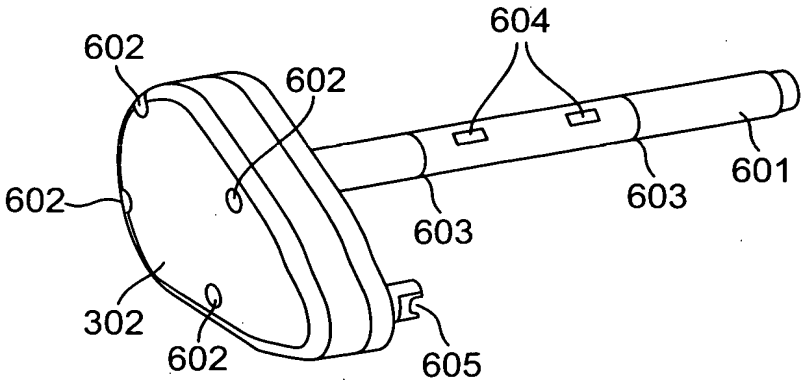

FIG. 6

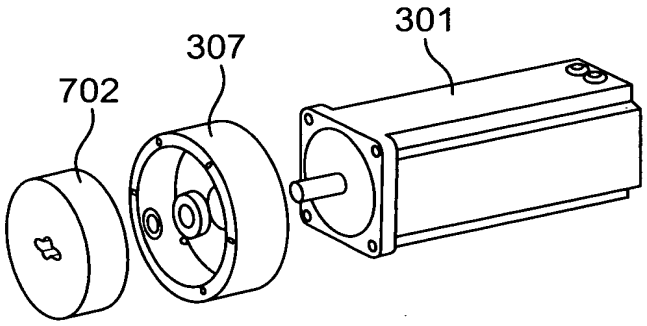

FIG. 7

OIPE
SEP 1 6 2004
PATENT & TRADEMARK OFFICE

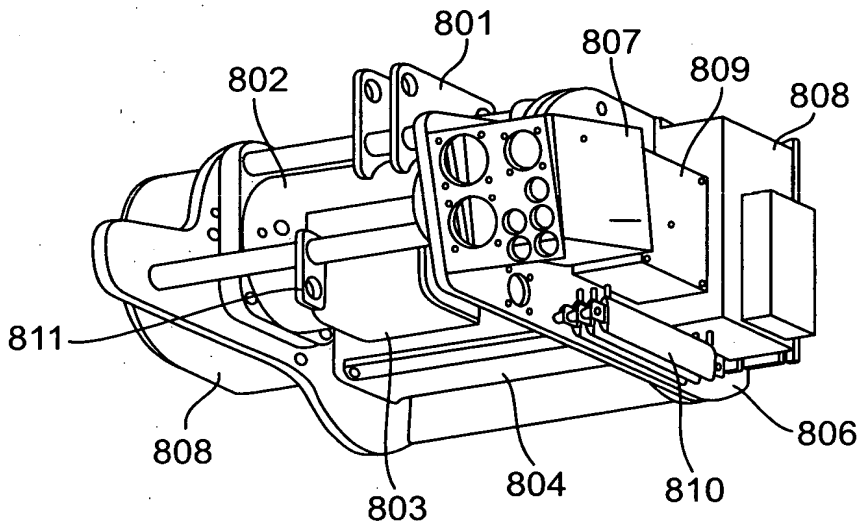

FIG. 8

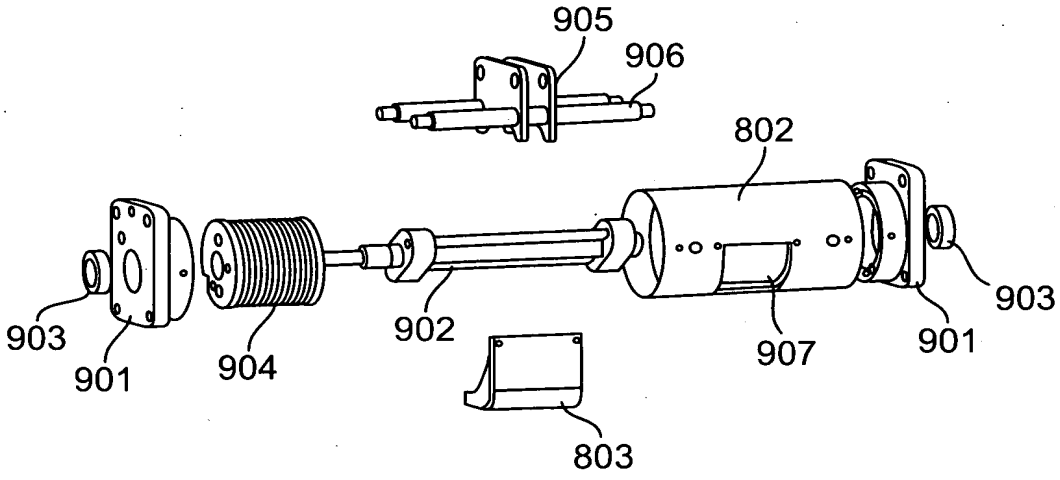

FIG. 9

OIPE
SEP 1 6 2004
PATENT OFFICE
JC98

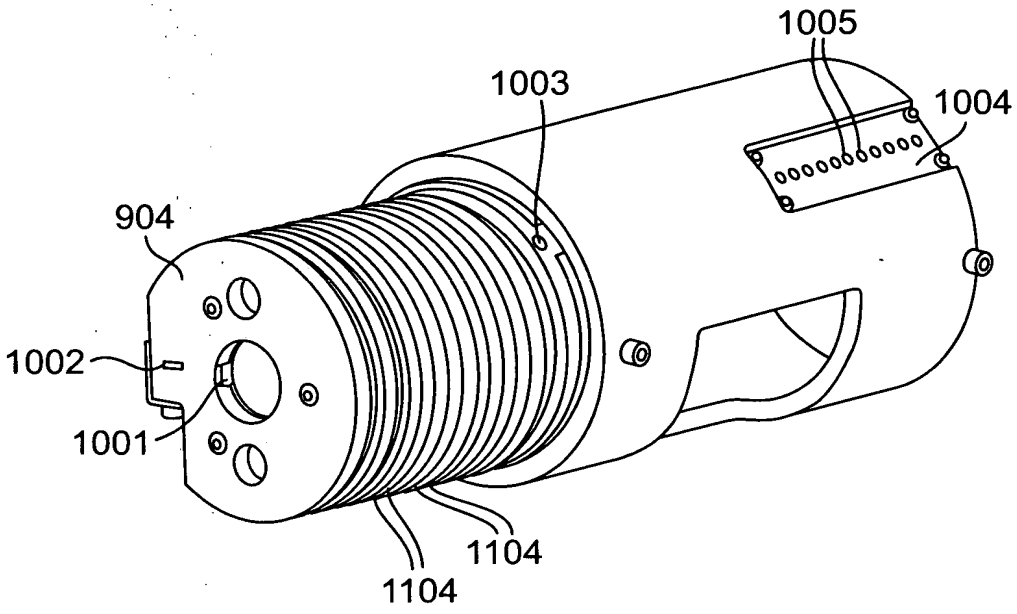

FIG. 10

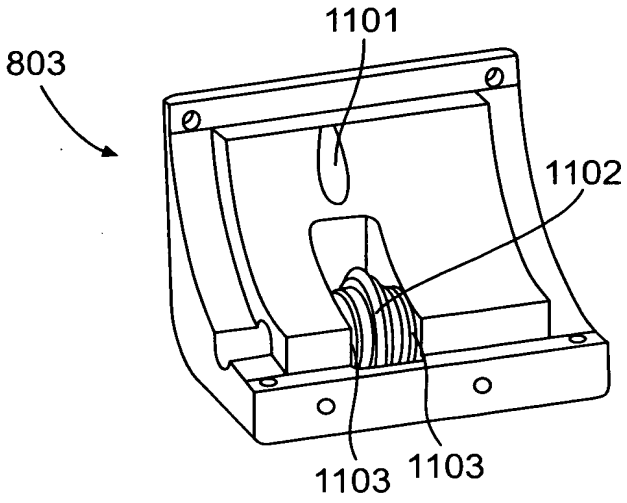

FIG. 11

OIPE
SEP 1 6 2004
JC98

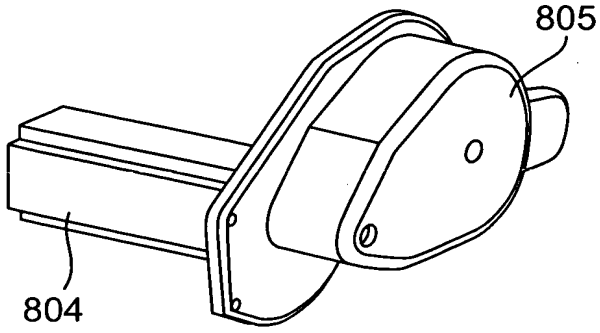

FIG. 12

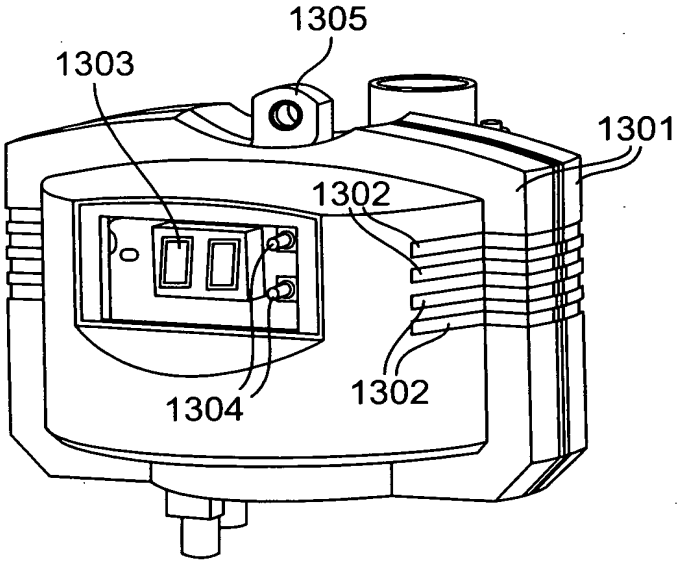

FIG. 13

OIPE
SEP 1 6 2004
PATENT & TRADEMARK OFFICE
JC98

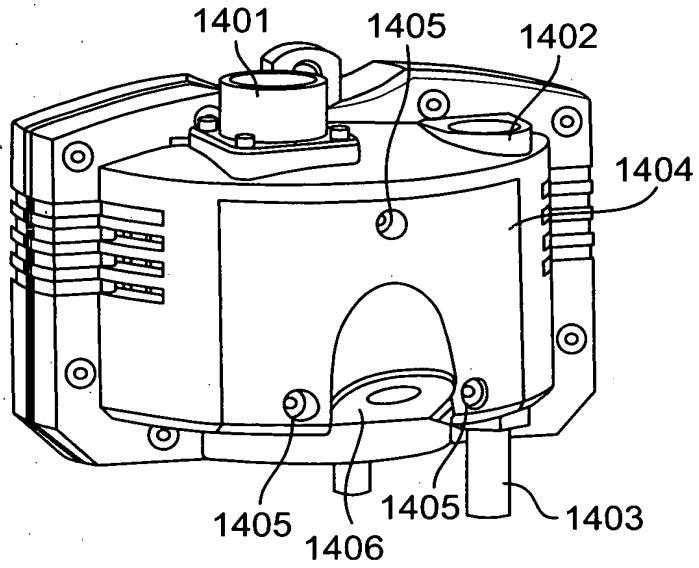

FIG. 14

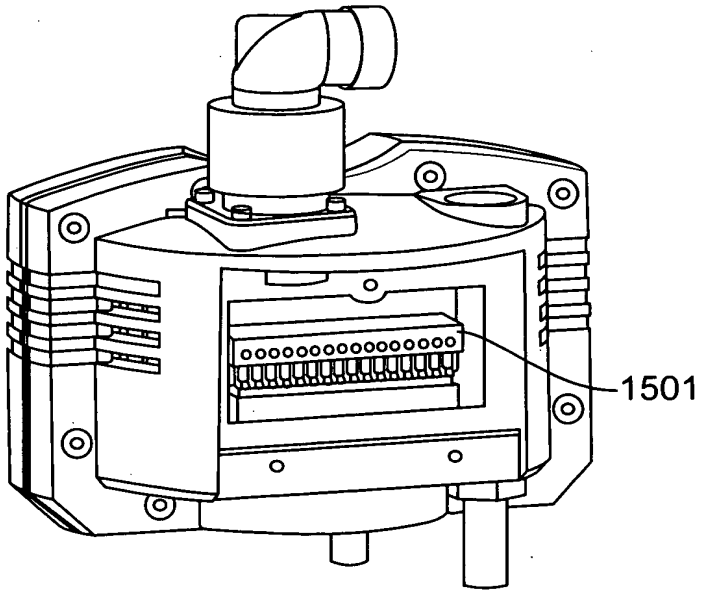

FIG. 15

OIPE
SEP 16 2004
PATENT & TRADEMARK OFFICE

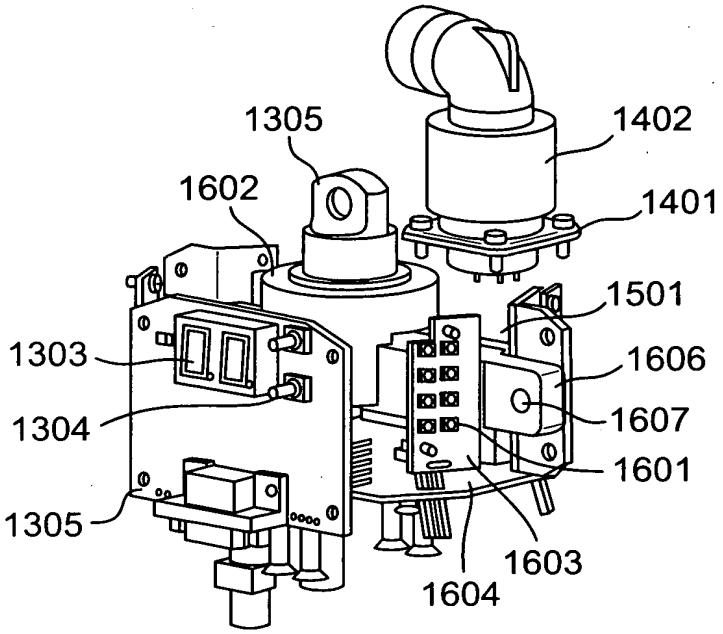

FIG. 16

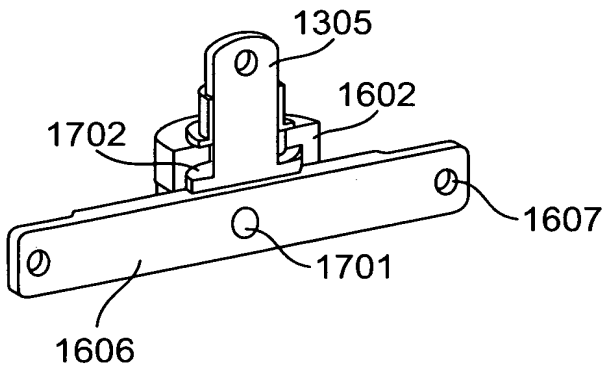

FIG. 17

OIPE
SEP 1 6 2004
PATENT & TRADEMARK OFFICE

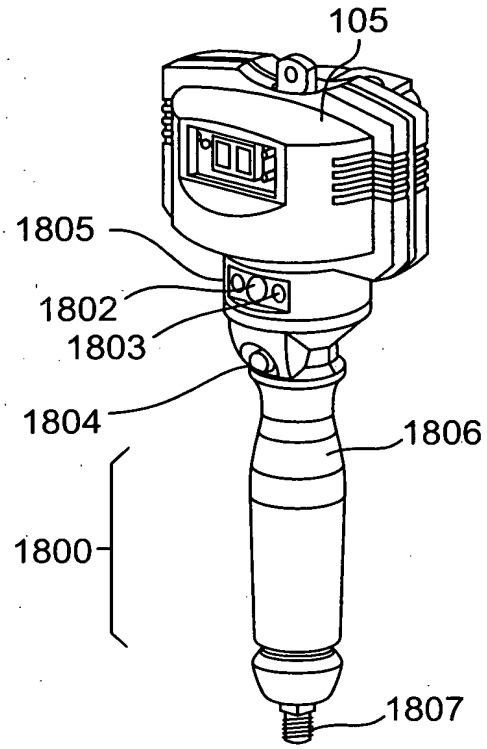

FIG. 18

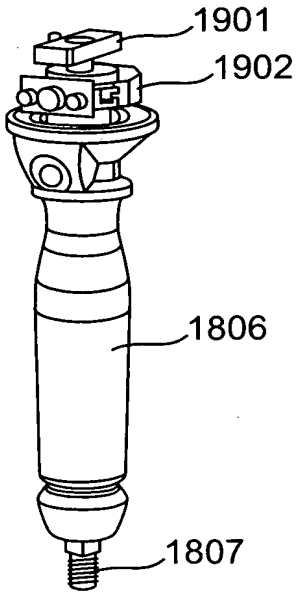

FIG. 19

OIPE
SEP 1 6 2004
TRADEMARK OFFICE
JC98

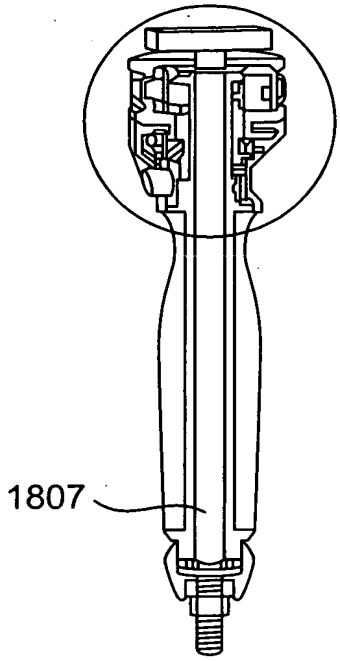

FIG. 20A

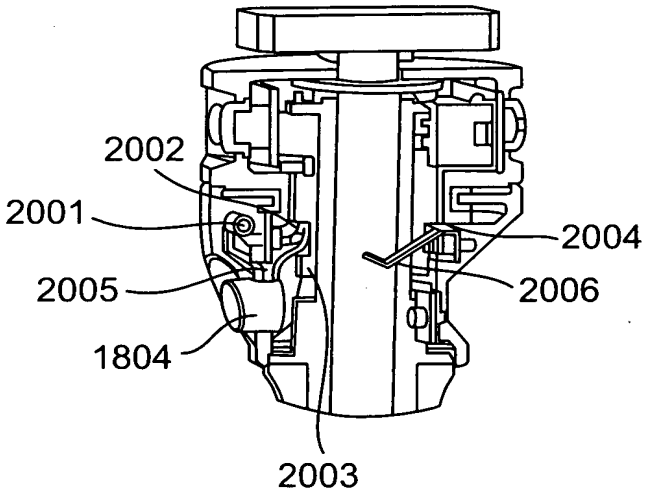

FIG. 20B

OIPE
SEP 1 6 2004
PATENT OFFICE

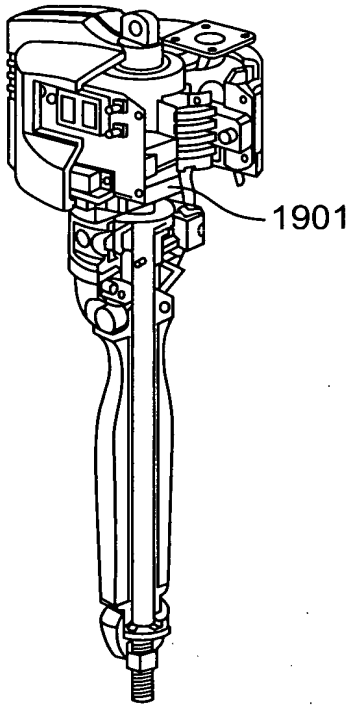

FIG. 21

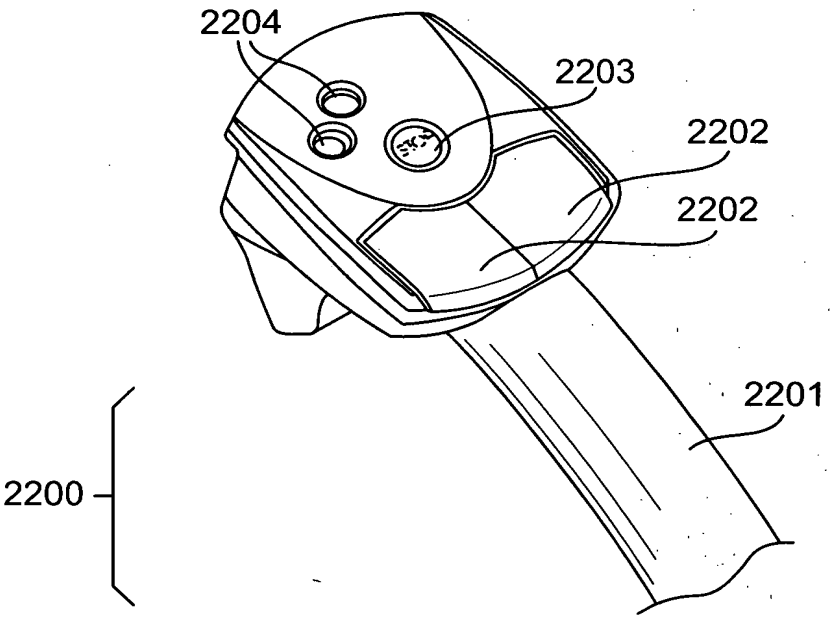

FIG. 22

OIPE
SEP 1 6 2004
PATENT & TRADEMARK OFFICE

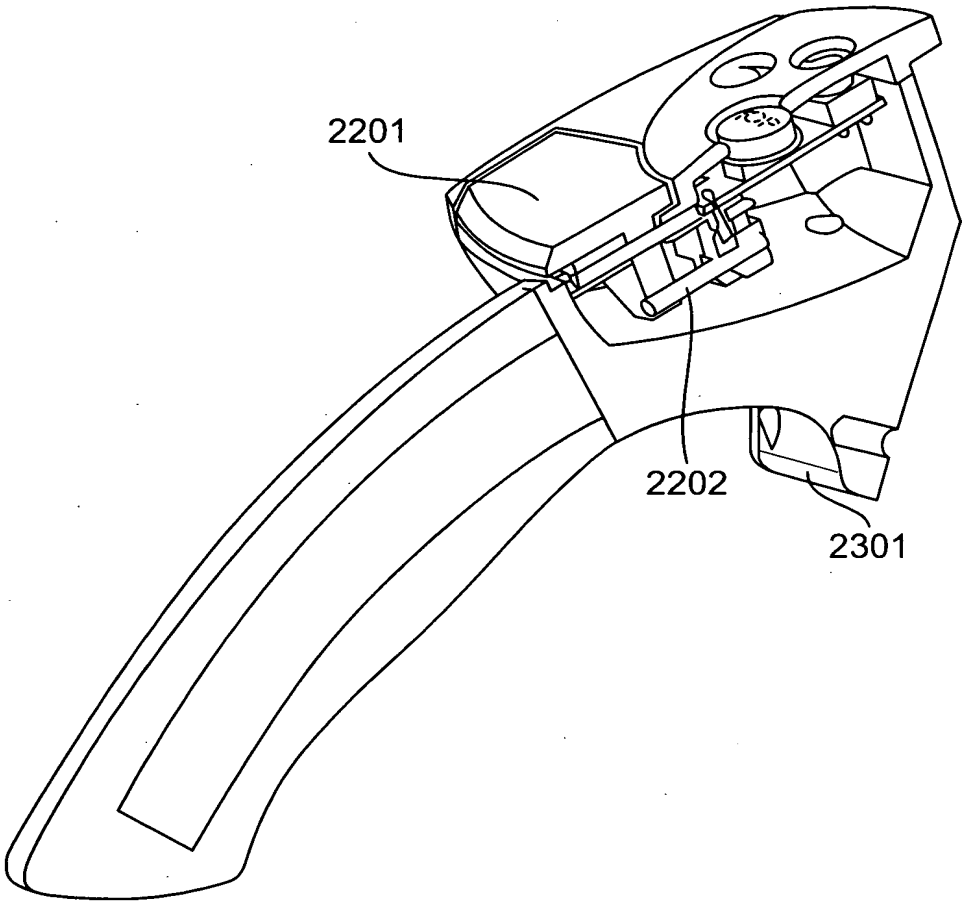

FIG. 23

OIPE
SEP 1 6 2004

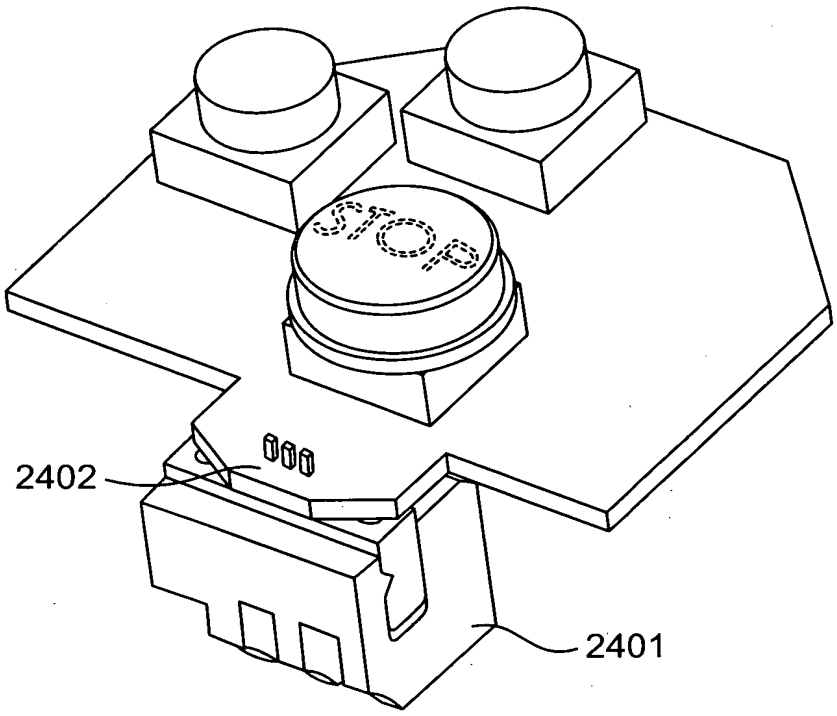

FIG. 24

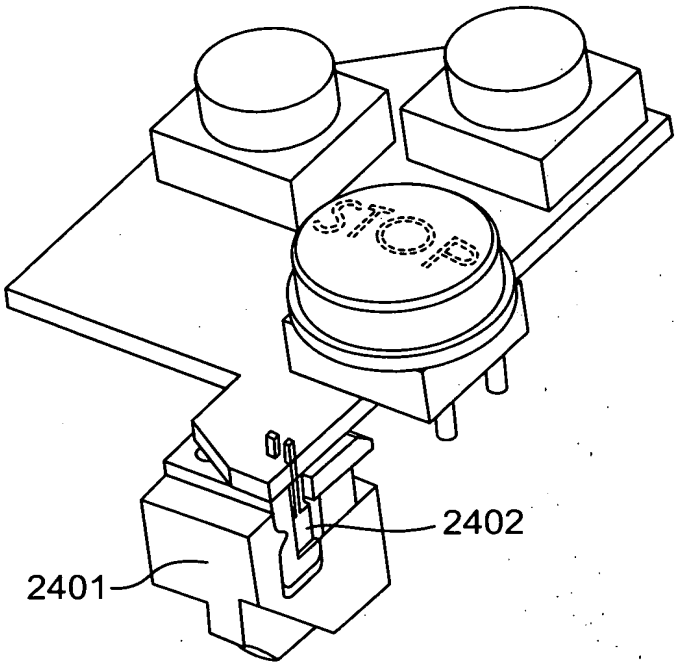

FIG. 25

PATENT & TRADEMARK OFFICE
SEP 16 2004
OIPE

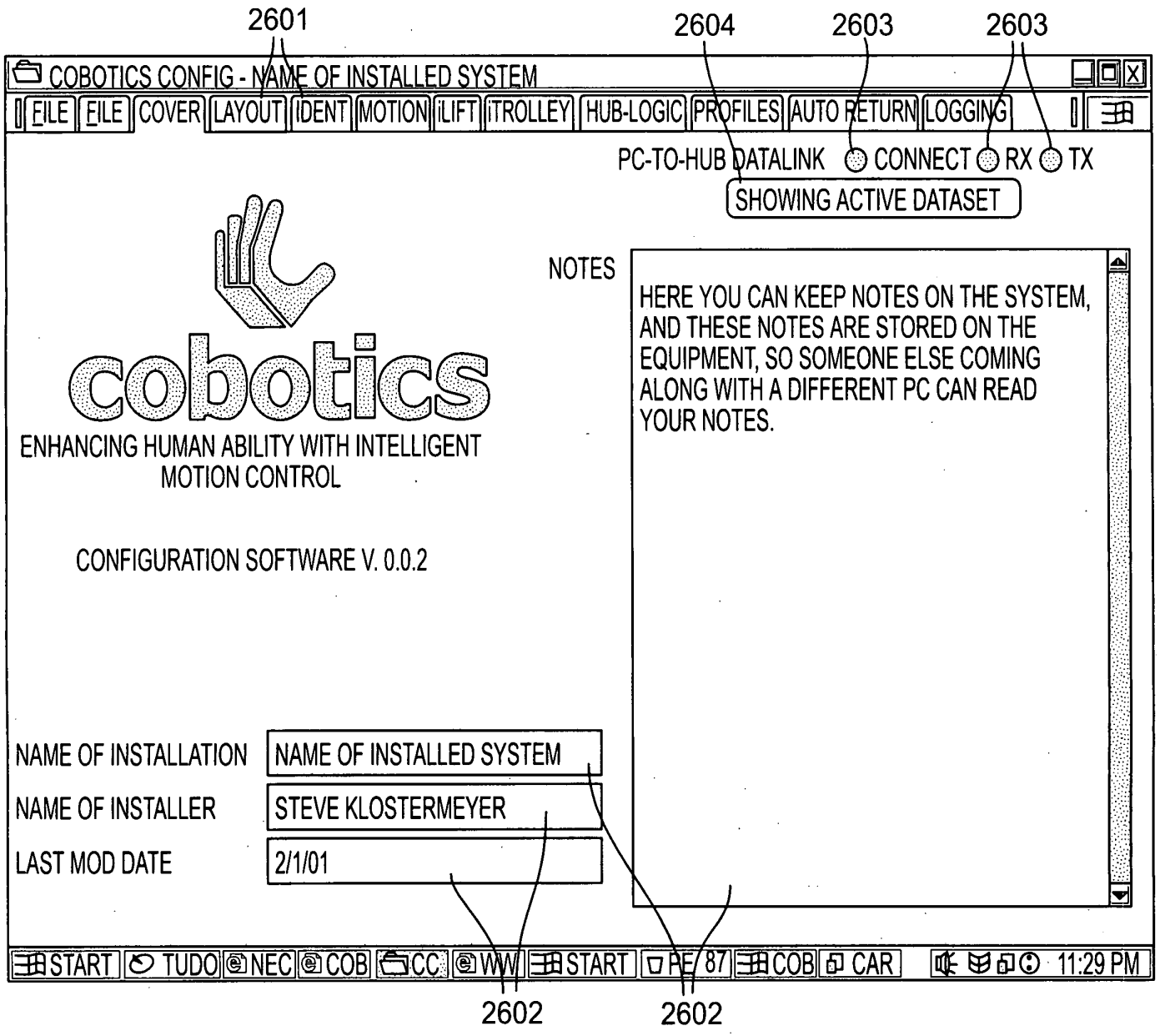

FIG. 26

SEP 16 2004 OIPE JC93

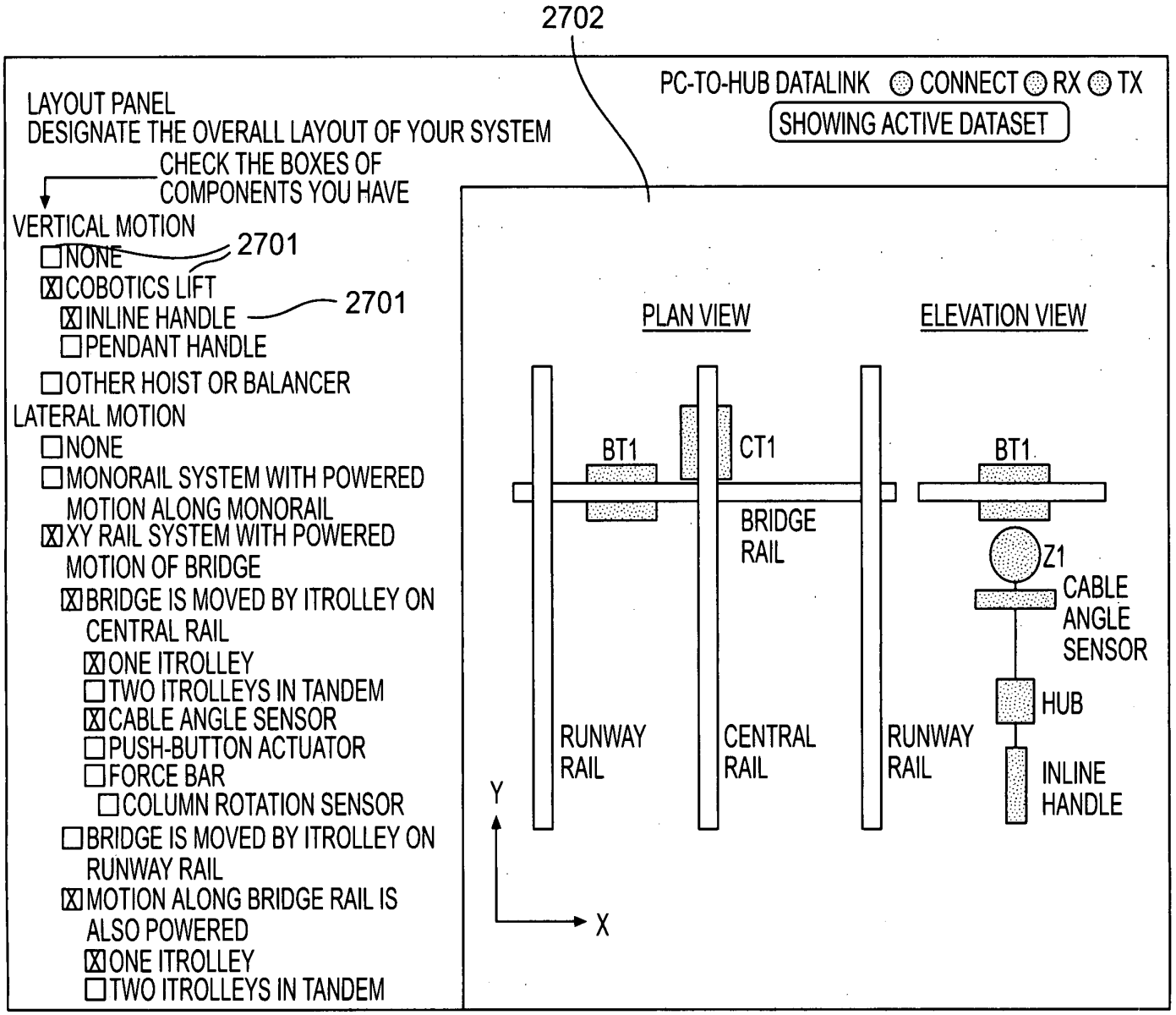

FIG. 27

SEP 16 2004
PATENT & TRADEMARK OFFICE
OIPE

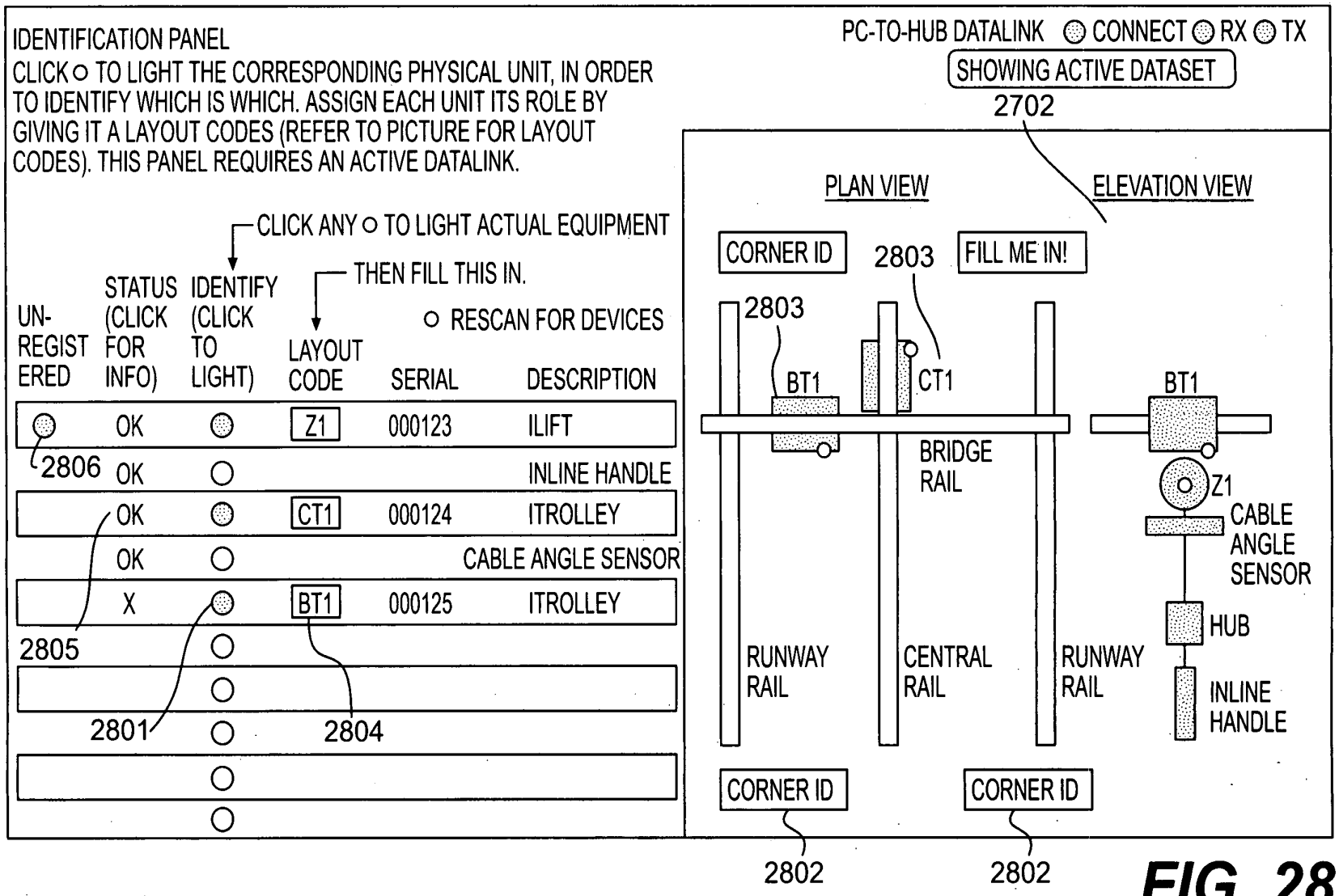

FIG. 28

OIPE
SEP 16 2004
PATENT & TRADEMARK OFFICE

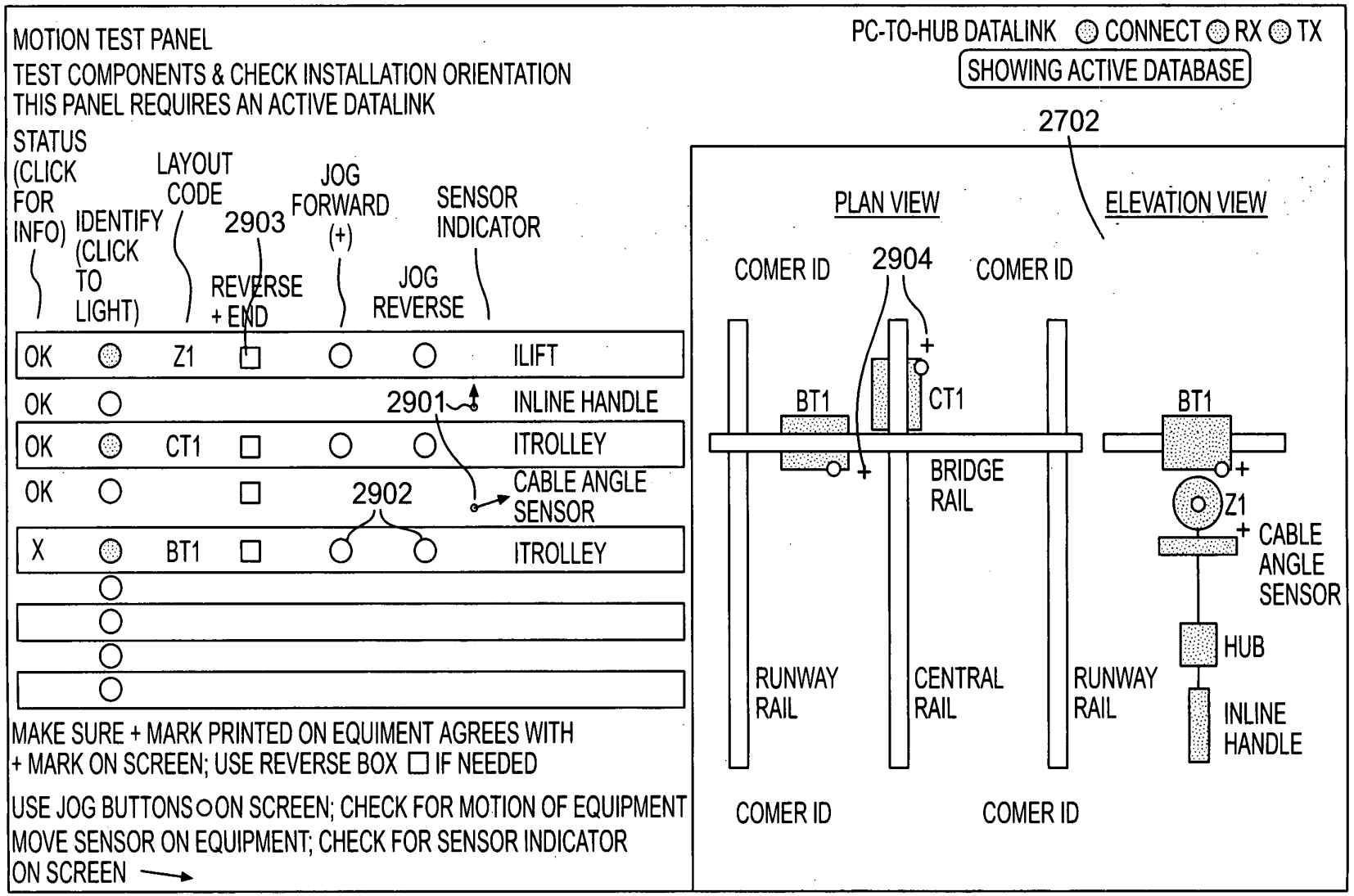

FIG. 29

SEP 16 2004 OIPE PATENT OFFICE JC98

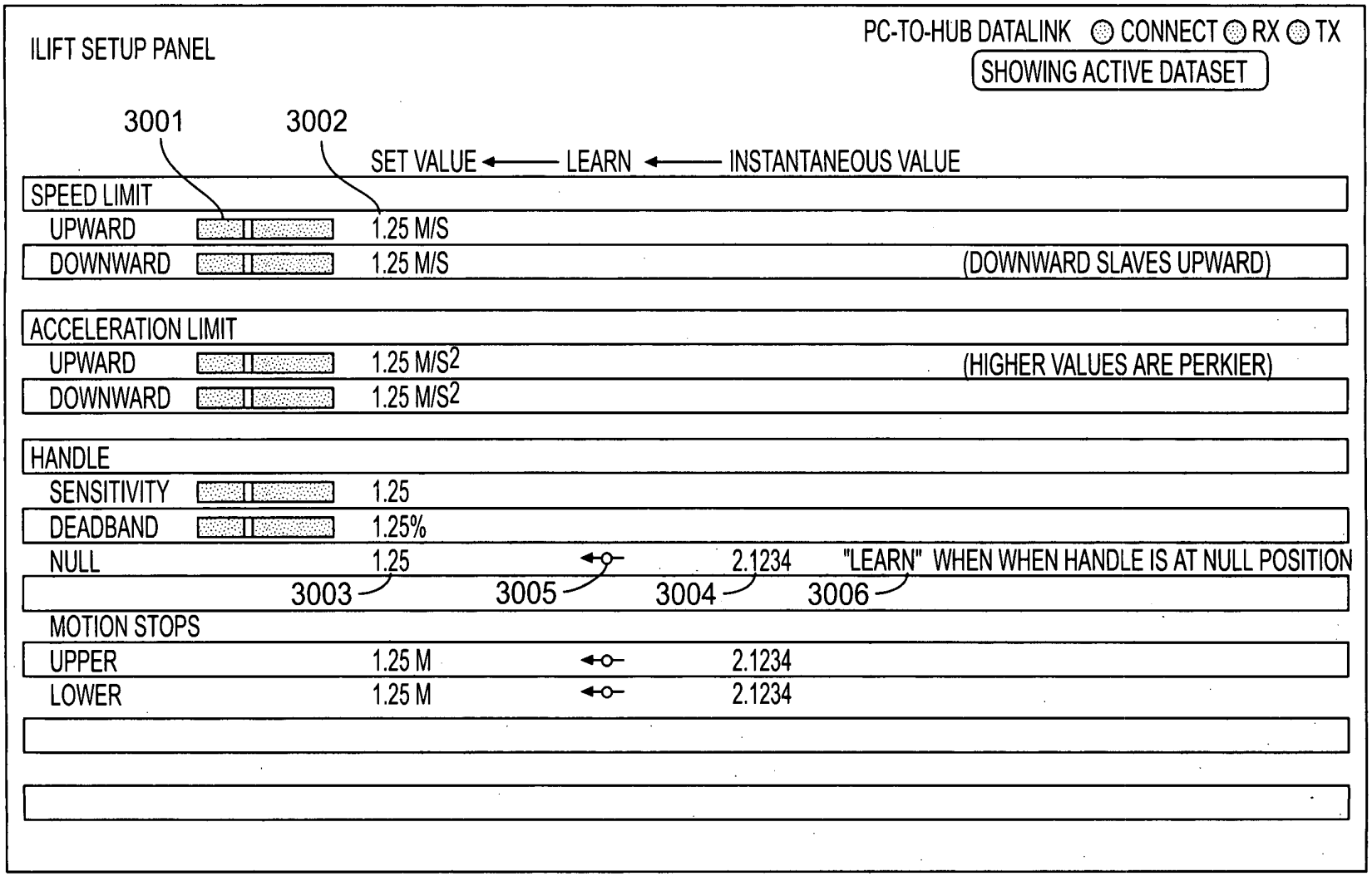

FIG. 30

SEP 15 2004
JC98 Rec'd PCT/PTO

3100

LATERAL MOTION SETUP PANEL

PC-TO-HUB DATALINK ○ CONNECT ○ RX ○ TX

SHOWING OFFLINE DATASET

	SET VALUE ← LEARN ← INSTANT VALUE			
SPEED LIMIT	1.25 M/S			
ACCELERATION LIMIT	1.25 M/S2			
ESTIMATE OF MOVING MASS ON BRIDGE	1.25 KG	○		MEASURE IT BY JOGGING BRIDGE
ESTIMATE OF MOVING MASS ON CARRIAGE	1.25 KG	○		MEASURE IT BY JOGGING CARRIAGE
ESTIMATE OF BRIDGE LENGTH	1.25 M	○		MEASURE IT BY SKEWING BRIDGE
BRIDGE SKEW NULL	1.25	←○–	○ JOG + ○ JOG -	JOG IT STRAIGHT; THEN "LEARN"
CABLE ANGLE SENSOR				
SENSITIVITY	1.25			
DEADBAND	1.25%			
NULL	1.25, 1.25, 5.00	←○–	2.1234	LEAVE IT VERTICAL; THEN "LEARN"
FORCE BAR				
SENSITIVITY	1.25			
DEADBAND	1.25%			
NULL	1.25, 1.25, 5.00	←○–	2.1234	DON'T TOUCH IT; THEN "LEARN"
END OF TRAVEL LIMIT RUNWAY (-Y)	1.25	←○–	2.1234	
END OF TRAVEL LIMIT RUNWAY (+Y)	1.25	←○–	2.1234	
END OF TRAVEL LIMIT BRIDGE (-X)	1.25	←○–	2.1234	
END OF TRAVEL LIMIT BRIDGE (+X)	1.25	←○–	2.1234	

FIG. 31

PATENT & TRADEMARK OFFICE SEP 16 2004

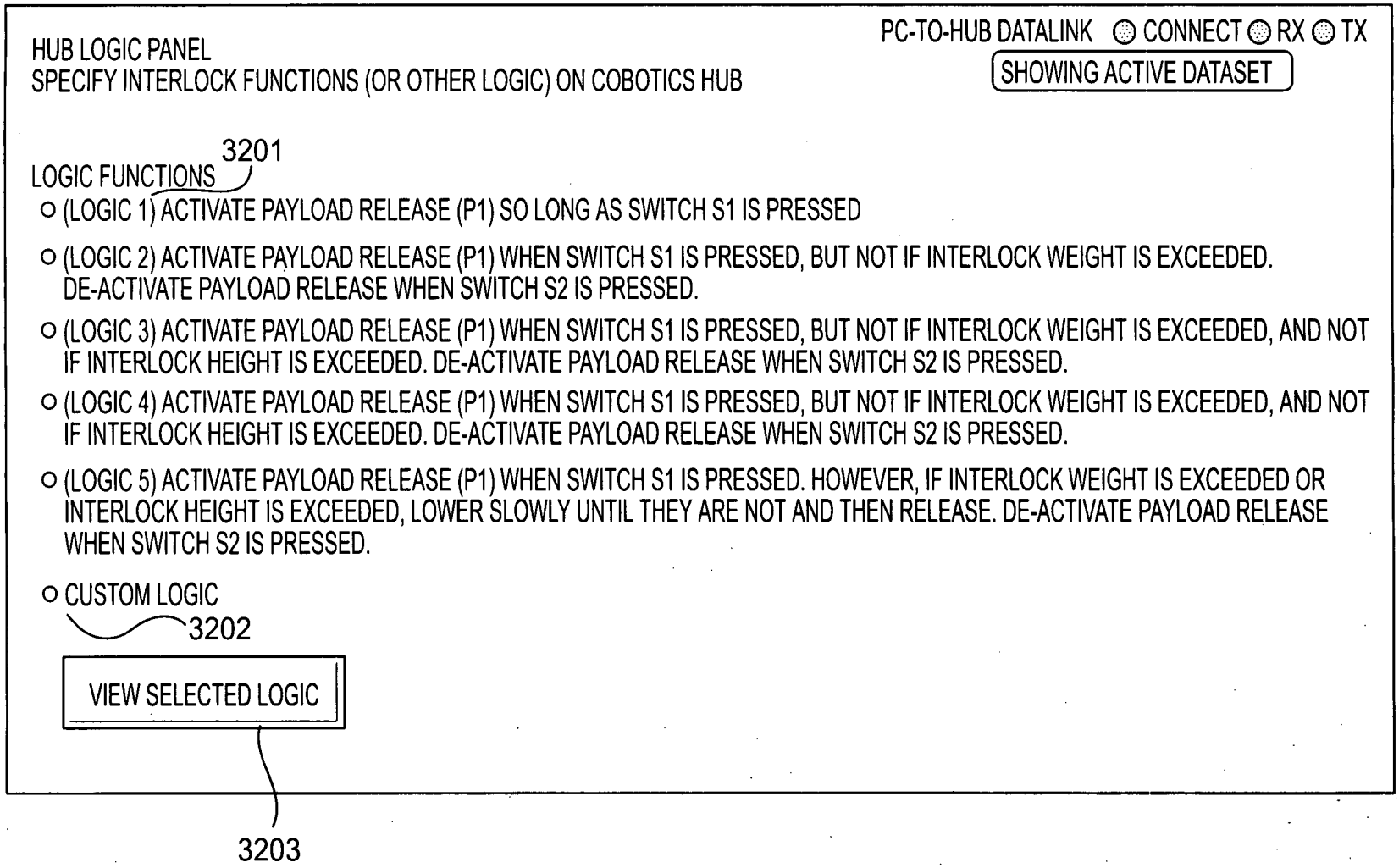

FIG. 32

SEP 16 2004 JC98 PTO

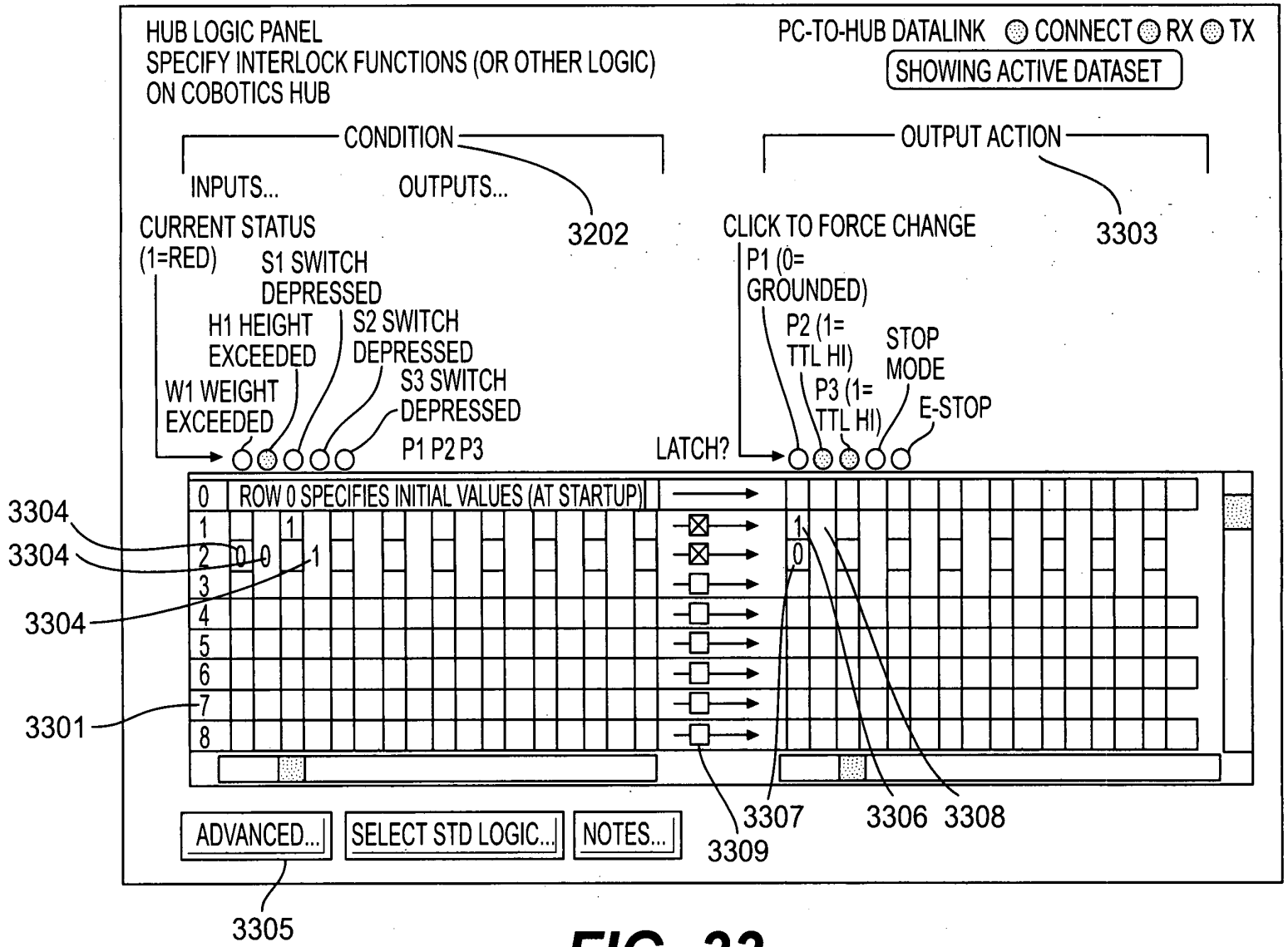

FIG. 33

OIPE SEP 16 2004 PATENT & TRADEMARK OFFICE 1C98

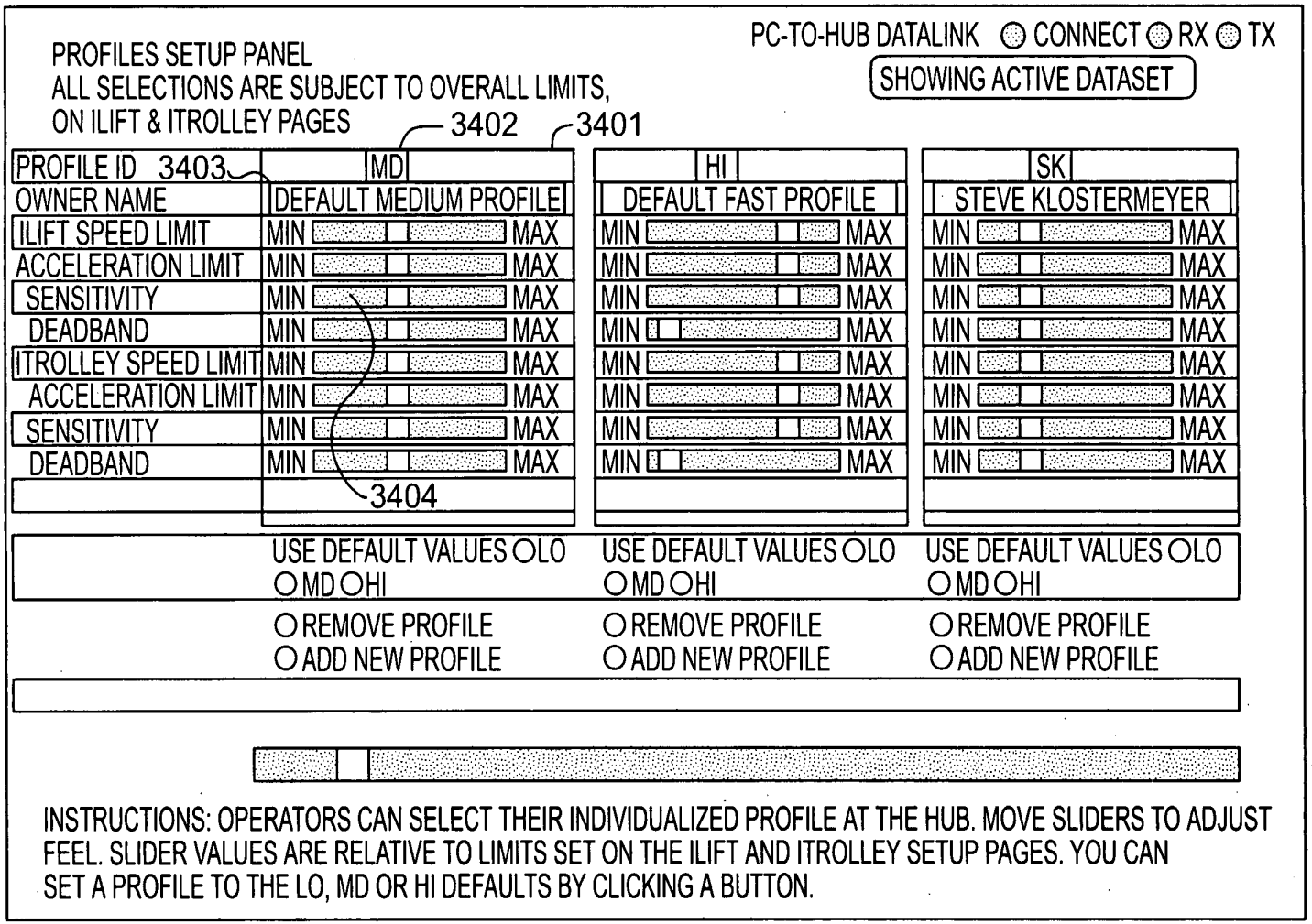

FIG. 34

SEP 16 2004
PATENT OFFICE
JC98

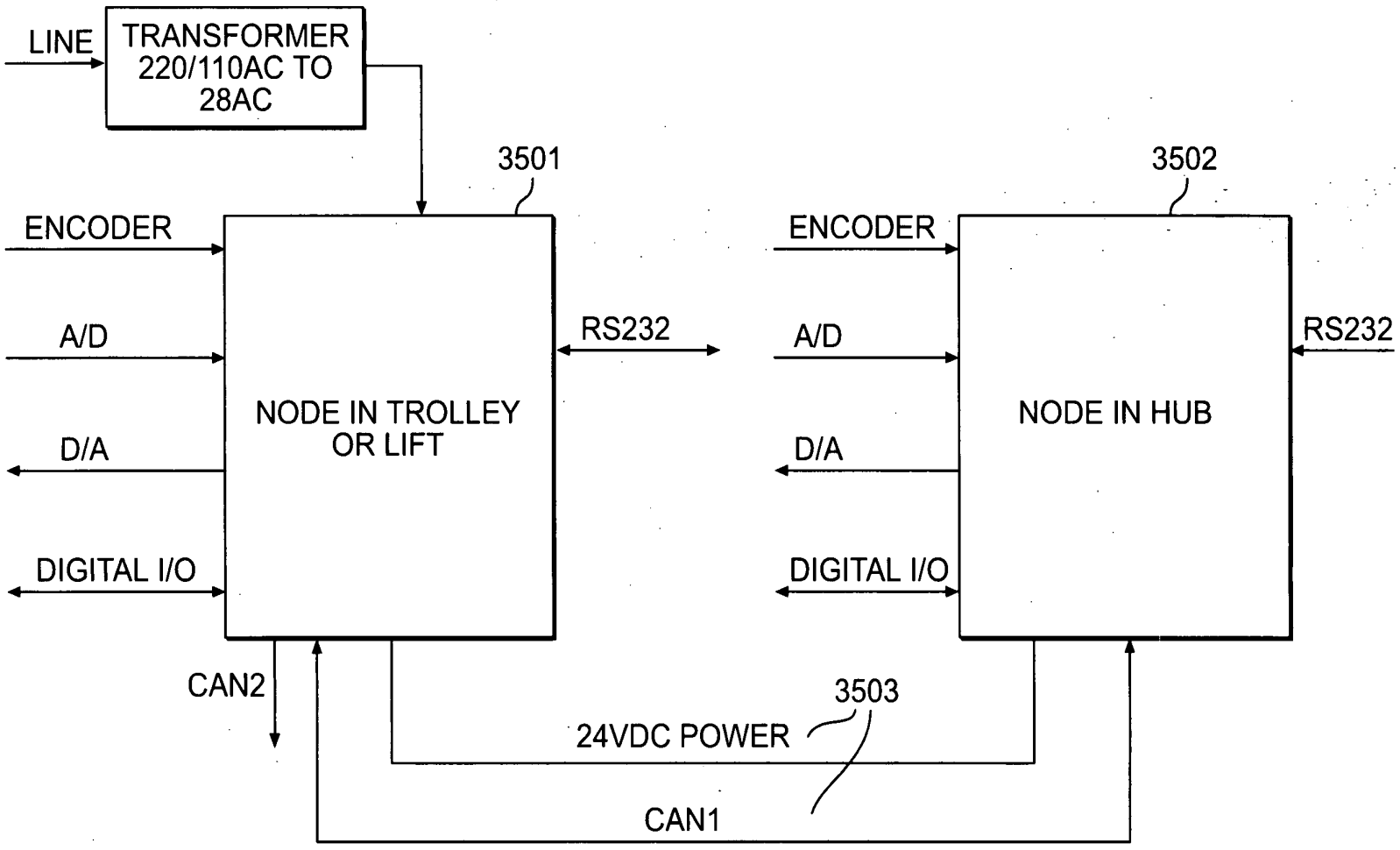

FIG. 35

OIPE
SEP 16 2004
PATENT & TRADEMARK OFFICE

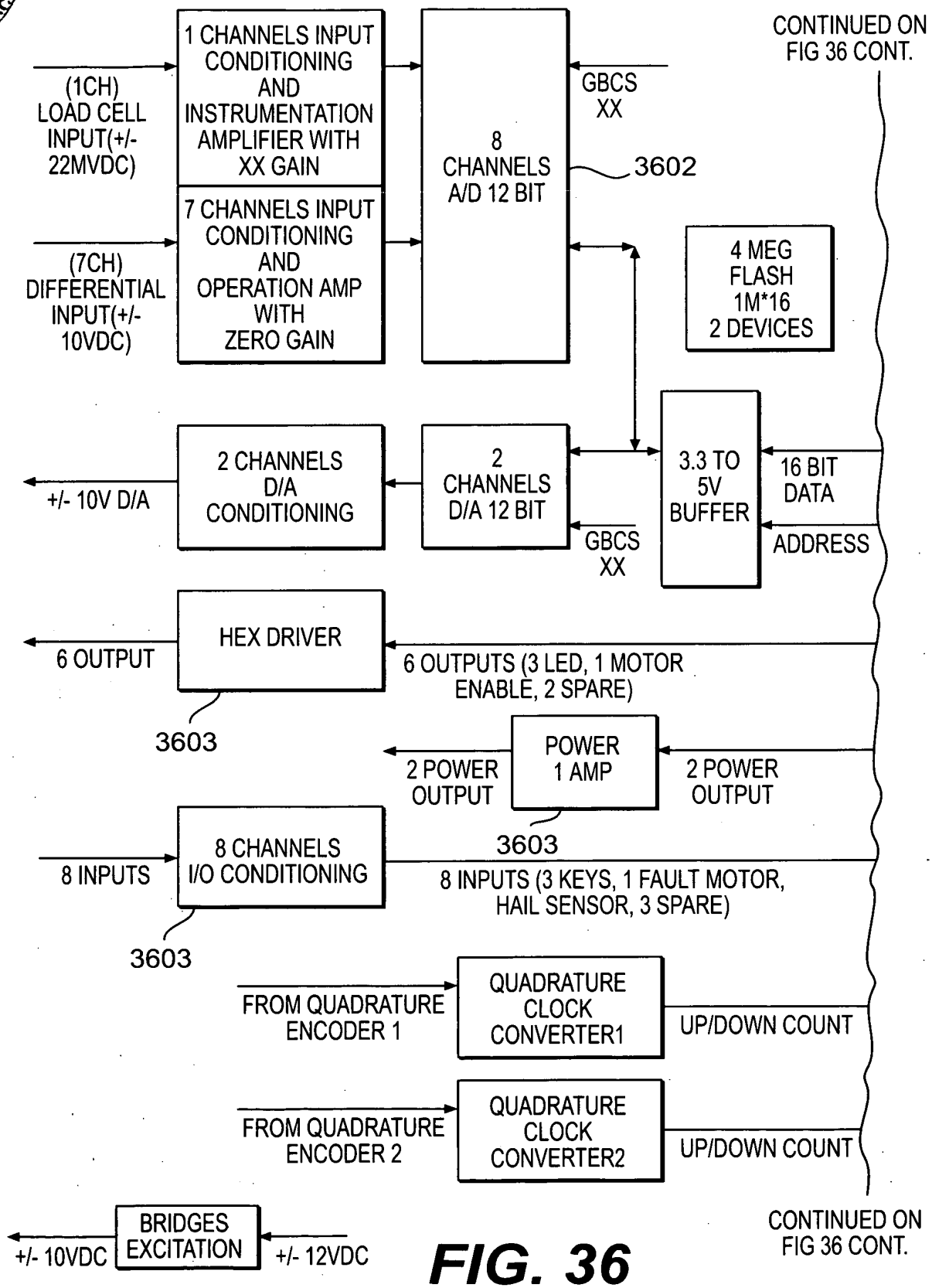

FIG. 36

OIPE
SEP 16 2004
PATENT & TRADEMARK OFFICE

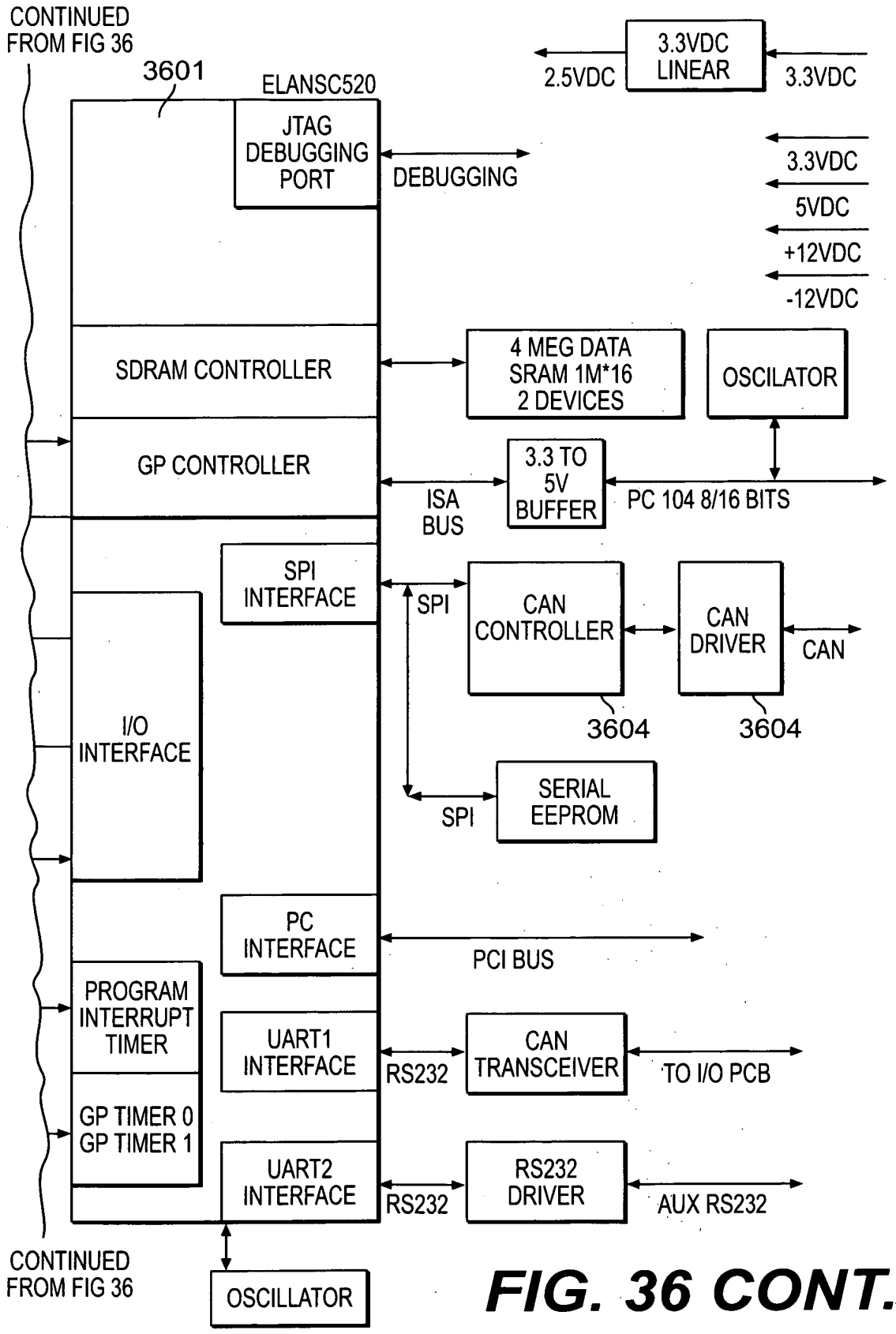

FIG. 36 CONT.

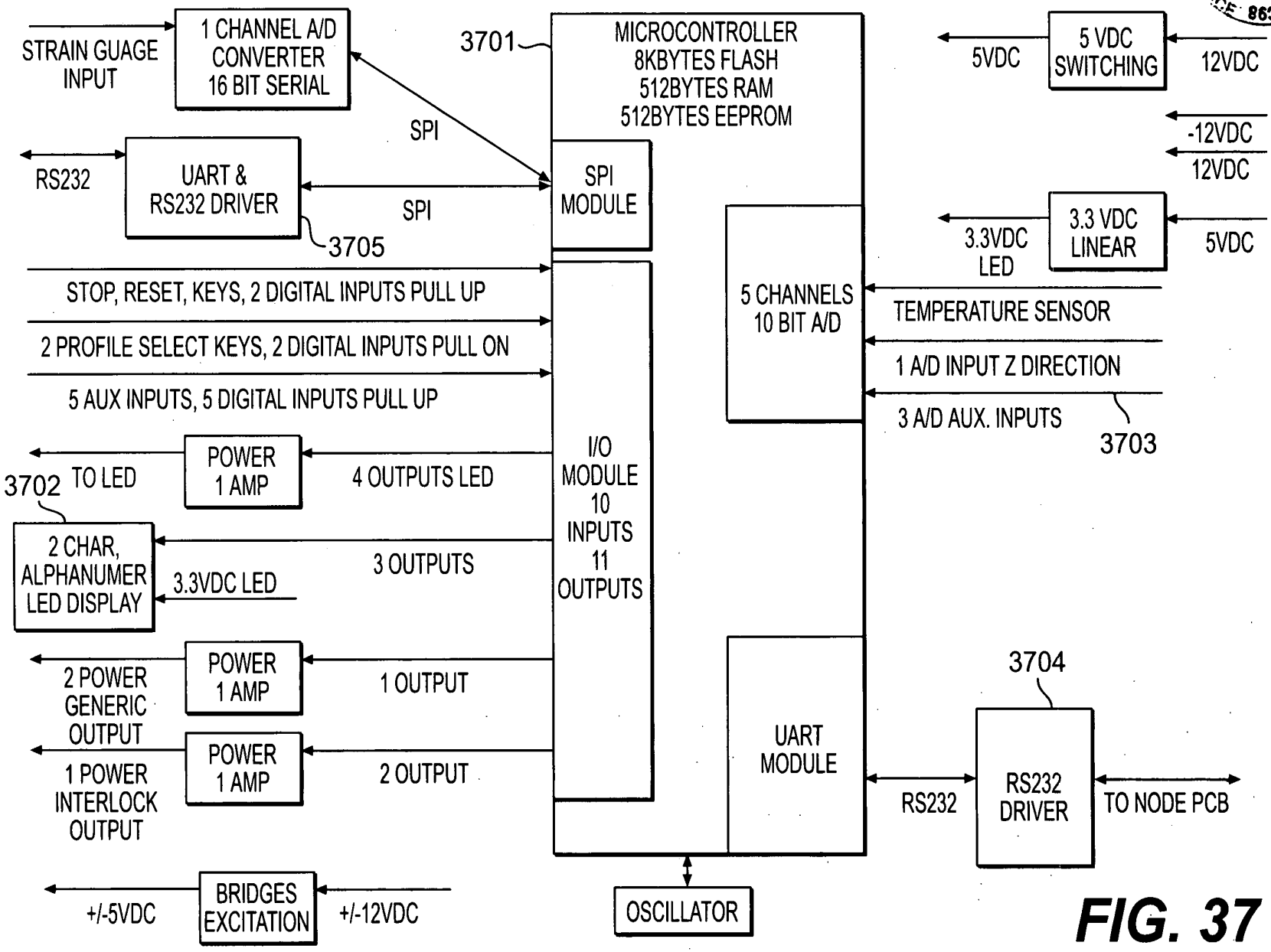
STRAIN GUAGE INPUT
1 CHANNEL A/D CONVERTER 16 BIT SERIAL
SPI
3701
MICROCONTROLLER 8KBYTES FLASH 512BYTES RAM 512BYTES EEPROM
SPI MODULE
RS232
UART & RS232 DRIVER
SPI
3705
STOP, RESET, KEYS, 2 DIGITAL INPUTS PULL UP
2 PROFILE SELECT KEYS, 2 DIGITAL INPUTS PULL ON
5 AUX INPUTS, 5 DIGITAL INPUTS PULL UP
I/O MODULE 10 INPUTS 11 OUTPUTS
5VDC
5 VDC SWITCHING
12VDC
-12VDC
12VDC
3.3VDC LED
3.3 VDC LINEAR
5VDC
5 CHANNELS 10 BIT A/D
TEMPERATURE SENSOR
1 A/D INPUT Z DIRECTION
3 A/D AUX. INPUTS
3703
3702
TO LED
POWER 1 AMP
4 OUTPUTS LED
2 CHAR, ALPHANUMER LED DISPLAY
3 OUTPUTS
3.3VDC LED
2 POWER GENERIC OUTPUT
POWER 1 AMP
1 OUTPUT
1 POWER INTERLOCK OUTPUT
POWER 1 AMP
2 OUTPUT
3704
UART MODULE
RS232
RS232 DRIVER
TO NODE PCB
+/-5VDC
BRIDGES EXCITATION
+/-12VDC
OSCILLATOR

FIG. 37

PATENT OFFICE JC98 SEP 16 2004

FIELD	SIZE (BYTES)	DATA FORMAT	DESCRIPTION
SIZE	1	BINARY	PACKET SIZE.
DEVICE_ID	1	BINARY	DESTINATION DEVICE ID.
CMD_TYPE	1	BINARY	COMMAND TYPE.
DATA	VARIABLE	BINARY	ACTUAL DATA ASSOCIATED WITH THE CMD_TYPE FIELD.
CHKSUM	1	BINARY	CHECKSUM OF PACKET. THIS BYTE EQUALS TO THE TWO'S COMPLEMENT OF THE SUM OF THE SIZE, DEVICE_ID, TYPE AND DATA, OMITTING ANY CARRY.

FIG. 38